

44/60. (amended) A method for removing from a microelectronic device structure a noble metal residue including at least one metal selected from the group consisting of platinum, palladium, iridium and rhodium, the method comprising contacting the microelectronic device structure with a gas-phase reactive halide composition comprising [a halide component selected from the group consisting of SF<sub>6</sub>, SiF<sub>4</sub>, Si<sub>2</sub>F<sub>6</sub>, SiF<sub>2</sub> radical, SiF<sub>3</sub> radical, and] XeF<sub>2</sub>, wherein the halide component is present in an amount effective to remove sufficient residue from the microelectronic device structure to eliminate noble residue-caused deficiencies in the operation of the microelectronic device.

## REMARKS

### 1. Acknowledgement of Withdrawal of §112, §102(e) and §103(a) Claim Rejections

Applicants acknowledge the Examiner's withdrawal (at page 2 of the August 28, 2000 Office Action) of: the §112 rejections of claims 1, 7, 23, 24, 47, 49, 50 and 54; the §102(e) rejections of claim 1-4, 6, 8, 12-15, 28, 30, 33 and 54; and the §103(a) rejection of claims 7 and 9-11.

#### 1.1 Cancellation of Claims 2-4, 12-14, 23-27, 49-52 and 58

Claims 2-4, 12-14, 23-27, 49-52 and 58 have been cancelled herein to advance the application to allowance. Such claims are cancelled with reservation of the right to pursue the subject matter thereof in a divisional or continuing application based on and claiming the priority of the present application, or otherwise in a separate patent application.

The cancellation of claims 23, 27 and 58 in the claims cancelled herein, renders moot the rejection of claims 23, 27 and 58 in the August 28, 2000 Office Action (pages 2-3 thereof).

#### 1.2 Perfection of the Priority Claim to Baum

Enclosed in Appendix A hereof is a new Declaration and Power of Attorney executed by the inventors of the present application, claiming the priority of Baum et al. U.S. Patent Application 08/966,797 filed November 10, 1997 and now issued as U.S. Patent 6,018,065.

As noted in paragraphs 9, 12 and 13 of the August 28, 2000 Office Action, the corresponding §102 and §103 rejections "may be overcome by [the] claim for priority [to Baum]."

### **1.3 Removal of Baum as a Reference, and Amendment of Claims to Overcome Ashby**

Baum has been removed as a reference by the perfection of applicants' claim to priority of U.S. Patent Application No. 08/966,797 (see preceding section 1.2).

Additionally, the claims have been amended (claims 1, 10, 11, 53, 54, 57, 59 and 60) to remove recital of SiF<sub>x</sub> species from applicants' claims, thereby overcoming the §§102/103 rejections of the claims based on Ashby. Accordingly, the rejections of the claims on reference grounds hereby are traversed, and it is respectfully submitted that claims 1, 5-11, 15-22, 28-48, 53-57 and 59-60 now pending in the application, as amended herein, are now in form and condition for allowance.

## **2. Petition Under 37 CFR 1.136 for One Month Extension of Time**

Petition hereby is made under the provisions of 37 CFR 1.136 for a one month extension of the term for response to the August 28, 2000 Office Action, extending the term for response to December 28, 2000.

The fee of \$55 specified in 37 CFR 1.17 for such extension of time is enclosed in the form of a check payable to Commissioner of Patents in such amount. Please charge any deficiency in payment, and credit any excess payment, to Deposit Account No. 08-3284 of Intellectual Property/Technology Law.

## **CONCLUSION**

Based on the foregoing, claims 1, 5-11, 15-22, 28-48, 53-57 and 59-60 as amended herein and now pending in the application, embody novel and nonobvious subject matter and such claims now are in form and condition for allowance. Favorable action therefore is requested.

Entry of this Amendment is requested under the provisions of 37 CFR §1.116 since this Amendment

satisfies the entry criteria of such section of the regulations, viz., it cancels claims, requires no additional consideration or search, and places the application in condition for allowance.

In the event that any issues remain outstanding, the Examiner is requested to contact the undersigned attorney at (919) 419-9350 to discuss their resolution, in order that this application may be passed to issue at an early date.

Respectfully submitted,



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Registration No. 28,021  
Attorney for Applicants

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# **APPENDIX A**

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**DECLARATION AND POWER OF ATTORNEY FOR PATENT APPLICATION**

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As a below-named inventor, I hereby declare that my residence, post office address and citizenship are as stated below next to my name.

I believe I am the original first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the invention entitled "Isotropic Dry Cleaning Process for Noble Metal Integrated Circuit Structures," the specification of which

(check one)

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is attached hereto.

was filed on June 8, 1998 as Application No. 09/093,291

and was amended on January 10, 2000, on July 10, 2000, and in an Amendment filed herewith in response to the August 28, 2000 Office Action.

I hereby state that I have reviewed and understand the contents of the above-identified specification, including the claims, as amended by the amendments referred to above.

I acknowledge the duty to disclose information that is material to the examination and to the patentability of this application in accordance with Title 37, Code of Federal Regulations, §1.56(a).

I hereby claim foreign priority benefits under Title 35, United States Code, §119 of any foreign application(s) for patent or inventor's certificate listed below and have also identified below any foreign application for patent or inventor's certificate having a filing date before that of the application on which priority is claimed.

Prior Foreign Application(s)

Priority Claimed

☐ Yes ☒ No

(Number)

(Country)

(Day/Month/Year Filed)

I hereby claim the benefit under Title 35, United States Code, §120 of any United States application(s) listed below and, insofar as the subject matter of each of the claims of this specification is not disclosed in the prior United States application in the manner provided by the first paragraph of Title 35, United States Code, §112, I acknowledge the duty to disclose material information as defined in Title 37, Code of Federal Regulations, § 1.56(a) which occurred between the filing date of the prior application and the national or PCT international filing date of this application.

08/966,797

November 10, 1997

Patented (U.S. Patent 6,018,065)

(Application Number)

(Filing Date)

(Status-Patented, Pending, abandoned)

I hereby appoint the following attorney(s) and/or agent(s) to prosecute this application and to transact all business in the Patent and Trademark Office connected therewith:

**OLIVER A. ZITZMANN, REG. NO. 38,691**

**STEVEN J. HULTQUIST, REG. NO. 28,021**

Docket No. 2771-272

**WILLIAM A. BARRETT, REG. NO. 42,296**  
**MARIANNE FUERER, REG. NO. 39,983**

All correspondence in connection with this application should be sent to:

**Steven J. Hultquist**  
**Intellectual Property/Technology Law**  
**P. O. Box 14329**  
**Research Triangle Park, NC 27709**  
**Telephone: (919) 419-9350**

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements are made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Full Name of sole or first inventor: **Peter C. Van Buskirk**

Inventor's Signature

Date 12/4/00

Residence: **18 Poverty Hollow Rd., Newtown, Connecticut 06470**

Citizenship: **USA**

Post Office Address: **18 Poverty Hollow Rd., Newtown, Connecticut 06470**

Full Name of sole or second inventor: **Frank DiMeo, Jr.**

Inventor's Signature

Date 11/30/00

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Citizenship: **USA**

Post Office Address: **(126 Willow Springs, New Milford, Connecticut 06776) FOI**

Full Name of sole or third inventor: **Peter S. Kirlin**

Inventor's Signature

Date \_\_\_\_\_

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11/20/00 15:00

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Docket No. 2771-272

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I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements are made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

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Docket No. 2771-272

Full Name of sole or fourth inventor : Thomas H. Baum

Inventor's Signature



Date

11-30-00

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